March 3rd, 2017

Feather River Ranger District
Plumas National Forest
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Oroville, California 95965

Sent via email to: comments-pacificsouthwest-plumas-featherrvr@fs.fed.us
andrgould@fs.fed.us

Re: Gibsonville Healthy Forest Restoration Project (EA)

To Whom It May Concern:

On behalf of the John Muir Project of Earth Island Institute (JMP) we submit the following comments on the "Gibsonville Healthy Forest Restoration Project" (Project) Environmental Assessment (EA). Specifically, we would like to address justification for and methodology toward several stated goals of this project, which are as follows:

1. **Thin vegetation to increase visibility and protect the Gibsonville town-site.** We support the protection and enhancement of cultural features within historic Gibsonville.

   The 2004 Framework, which is considered obsolete do to an overwhelming abundance of new science, assumed that structure protection is best accomplished by a ¼-mile wide "Defense Zone" surrounding towns, and groups of cabins, as well as an additional 1.5-mile wide "Threat Zone" surrounding the Defense Zone.

This is refuted by *newer and more robust scientific information*:

Cohen, J.D., and R.D. Stratton. 2008. Home destruction examination: Grass Valley Fire. U.S.
Forest Service Technical Paper R5-TP-026b. U.S. Forest Service, Region 5, Vallejo, CA.
(The vast majority of homes burned in wildland fires are burned by slow-moving, low severity fire, and defensible space within 100-200 feet of individual homes [reducing brush and small trees, and limbing up larger trees, while also reducing the combustibility of the home itself] more effectively protects homes from fires, even when they are more intense.)

Gibbons, P. et al. 2012. Land management practices associated with house loss in wildfires. PLoS ONE 7: e29212. ***(Defensible space work within 40 meters [about 131 feet] of individual homes effectively protects homes from wildland fire. The***

authors conclude that current management practices of thinning broad zones in wildland areas hundreds to thousands of meters away from homes is ineffective and diverts resources away from actual home protection, which must be focused immediately adjacent to individual structures in order to protect them.)

1. **Remove invasive plants from the project area.**
   We support the removal of invasive plants from public forestlands, but with minimal use of potentially harmful herbicides. We are concerned that the use of mechanical equipment up to the edge of meadows will encourage establishment of invasive plants, which will be costly and time-consuming to eradicate, and require increased future herbicide application in fragile meadow zones.

2. **Thin vegetation to release aspen from conifer suppression.**
   We acknowledge the urgent need for management activities that maintain viable aspen groves on the PNF for wildlife and aesthetic benefits, as expressed in (Cluck 2010), *"The temporal pattern of aspen mortality in NE California was much different from the other western regions. 47.1% of dead aspen trees were recorded as older dead as compared to 0 to 33% for all other western regional surveys. This suggests that NE California experienced a distinct mortality pulse earlier than the rest of the west or that mortality has been occurring steadily over a longer period of time."*

   However, we do not support the management methods being proposed in this project, based upon numerous scientific studies and the Cluck 2010 report itself. Using conifer removal, or what are essentially 30 acre clear cuts around the perimeter of each aspen grove, is not supported by the best available science. A more scientifically-supported, fiscally efficient and ecologically-sound management approach would be the use of managed mixed-intensity fire, and post-treatment fencing to exclude domestic livestock.

This project as proposed fails to fully consider a reasonable range of alternatives, including an action alternative that considers the more scientifically supported use of mixed-intensity prescribed fire and fencing to encourage aspen stand regeneration and resilience.

H. Y. Wan, A. C. Rhodes and S. B. St. Clair, 2014. Fire severity alters plant regeneration patterns and defense against herbivores in mixed aspen forests. Dept of Plant and Wildlife Sciences, Brigham Young Univ., Provo, UT 84602, USA. Oikos 123: 1479–1488**.** ***("Aspen and other post-disturbance pioneering species play a fundamentally important role in facilitating the post-disturbance re-establishment of forest communities but intense browsing by ungulates can be detrimental to their establishment and recruitment (Baker et al. 1997). Browse damage was approximately 60% lower in moderate and high burn severity plots compared to low severity and unburned plots. Aspen regeneration density was 2.3 and 3.1 fold greater in high and moderate severity burn plots than in low severity and***

unburned plots. High burn severity stimulated photosynthesis, vertical growth and biomass accumulation. Defense chemistry expression responded dynamically over time depending on burn severity. Based on the results in this study, regeneration resilience to browse pressure may be increased with high burn severity conditions.")

Douglas J. Shinneman, William L. Baker, Paul C. Rogers, Dominik Kulakowski, 2013. Fire regimes of quaking aspen in the Mountain West. Journal of Forest Ecology and Management, (www.elsevier.com/locate/foreco**). *("Through our comprehensive assessment of the fire literature, we suggest that at least five aspen fire regime types can be defined along gradients of fire severity and probability, and that these types are influenced by biophysical settings that support both stable and seral aspen successional types. Explicit recognition of a multiplicity of aspen fire regime types and their associated biophysical settings is also important for management purposes, and should greatly contribute to appropriate ecological restoration and stewardship goals for MW aspen communities.")***

Krasnow, K.D., and S.L. Stephens. Evolving paradigms of aspen ecology and management: impacts of stand condition and fire severity on vegetation dynamics. Ecological Society of America (ESA), 2016. DOI: 10.1890/ES14-00354.1.
(Authors compared regeneration dynamics of aspen revitalization strategies (conifer removal and prescribed fire) to unplanned wildfires of low, moderate, and high severity in the Sierra Nevada, and related multiple components of pre-fire stand composition to post-fire aspen regeneration, and found substantial evidence that greater disturbance severity yields increased aspen sprout density and growth rates, and that live conifer and/or dead aspen basal area in a stand before a fire reduces post fire sprout density. Additionally, increased high severity fire in forested areas, may provide opportunity for successful aspen migration and genet establishment. In addition to revitalizing existing aspen stands, future management goals should include the establishment of new stands in more suitable habitat.)

(Cluck 2010) is referred to in the Gibsonville Project EA as a major supporting document justifying the conifer removal component of this project. However, the Cluck 2010 report states that a majority of aspen stands in a survey recently conducted throughout northeastern California, that had received recent conifer removal treatments, still fell into the moderate risk category due to limited regeneration and/or poor overstory condition, and after conifer removal release, only 23.1% of the aspen stands surveyed were described as expanding (>500 aspen sprouts/acre within and outside of the main stand).

In conifer removal plots vs. untreated plots, Cluck's findings were, *"Few differences in aspen stand structure were observed for plots that had recent conifer removal treatments vs. untreated plots."*

In contrast, in burned vs. unburned plots, *"Burned plots had fewer trees and saplings but more seedlings compared to unburned plots indicating that fire removed some overstory trees but increased sprouting (5900 sprouts/burned acre to 2967 sprouts/unburned acre). Burned plots also had fewer damaging agents detected than unburned plots."*

The Cluck 2010 report addresses animal impacts. *"Browsing by both wild and domestic ungulates was the most frequently recorded primary damaging agent on aspen sprouts (47.3% of plots and 36.2% of all sprouts examined.)" "Mechanical injury, including trampling by livestock, can lead to mortality if injuries are repeated and/or severe. Animal browsing has a high potential to cause mortality if sprouts are repeatedly consumed." Browsing of aspen regeneration by wild and domestic ungulates was high in NE California, recorded as the primary damaging agent on 43.2% of sprouts on 47.3% of plots. At the stand level, 70.3% had evidence of browsing. While no stand was found to be completely denuded of aspen foliage, the repeated pressure of browsing may be slowing the growth of affected stems and delaying their recruitment into the overstory (Jones et al 2009)*. "

(Cluck 2010) recommends *"As overstory aspen disappear from the landscape in these areas it is crucial to protect the limited regeneration from excessive browsing until stems reach at least 5' in height."* Further, *"treating stands without protecting new sprouts from browsing can result in losing aspen from the landscape (Sheppard et al2006)."*

Sincerely,

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